WHAT IS CLAIMED IS

1. A method for determining characteristics of an object having a grained surface, comprising the steps of:

providing a light source;

providing a TV camera;

with said light source, projecting a zone of light on said object;

imaging said zone of light on said object with said TV camera to provide zone image data which is dependent on the grain of said object, and

analyzing said zone image data to determine at least one characteristic of said object.

2. A method according to claim 1 wherein said object is lumber.

3. A method according to claim 1 including the further step of determining the quality of said object using said axis data.

4. A method according to claim 3 wherein said quality is related to the grade of said lumber.

5. A method according to claim 1 wherein a plurality of zones are projected at a plurality of spaced positions on said object.

6. A method according to claim 1 wherein said projected zone is a spot.

7. A method according to claim 1 wherein said TV camera employs a photo-detector array.

8. A method according to claim 7 wherein said array is pixel addressable.

9. A method according to claim 1 wherein said analysis step includes determining from said zone image data, at least one axis of said zone image indicative of said grain.

10. A method according to claim 9 including the further step of determining the angle of said zone image axis.

11. A method according to claim 9 including the further step of determining a change in angle of said zone image axis.

12. A method according to claim 9 including the further step of determining the angle of said zone image axis from a norm.

13. A method according to claim 12 wherein said norm is represented by an axis substantially parallel to the axis of said object.

14. A method according to claim 1 wherein said light source is a laser.

15. A method according to claim 1 wherein said light source is controlled to allow operation over a wide range of object reflectivity conditions.

16. A method according to claim 1 wherein a parameter of said TV camera is controlled to allow operation over a wide range of object reflectivity conditions.

17. A method according to claim 1 wherein said light source and said TV camera are controlled to allow operation over a wide range of object reflectivity conditions.

18. A method according to claim 1 wherein said TV camera employs at least one PSD detector.

19. A method according to claim 5 wherein only a fraction of the object is illuminated.

20. A method according to claim 1 wherein more than one TV camera is employed to image said zone.

21. A method according to claim 1 wherein more than light source is employed project a zone on said object.

22. A method according to claim 1 wherein said projected zone is of arbitrary shape.

23. A method according to claim 1 including the further step of determining the grayscale intensity value of points within said zone image.